

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

INTERMEC IP CORP., a Delaware)	
corporation,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 04-357-GMS
)	
SYMBOL TECHNOLOGIES, INC.,)	
a Delaware corporation,)	
)	
Defendant.)	

PLAINTIFF'S ANSWERING CLAIM CONSTRUCTION BRIEF

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INTRODUCTION

The parties have identified seven disputed issues of claim construction from three of the four patents at issue in this case.¹ For each of the remaining issues, Symbol seeks improperly to narrow the claims in a manner not required by the claims, the specification or the prosecution history. Applying the law of claim construction as set forth in the Federal Circuit's recent *en banc* decision, *Phillips v. AWH Corp.*, ____ F.3d ____, 75 U.S.P.Q.2d 1321, 2005 WL 1620331 (Fed. Cir. July 12, 2005) (*en banc*), and the cases expressly reaffirmed therein, including *Vitronics Corp. v. Conception, Inc.*, 90 F.3d 1576 (Fed. Cir. 1996), and *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1123 (Fed. Cir. 2004), Symbol's proposed claim constructions should be rejected.

When the claims at issue are construed properly in light of the specification, and without importing limitations from the specification or artificial limitations from the prosecution history, they should be construed as Intermec has proposed.

¹ Intermec will no longer contest one of Symbol's proposed claim constructions. *See*, Section III.C, *infra*.

ARGUMENT

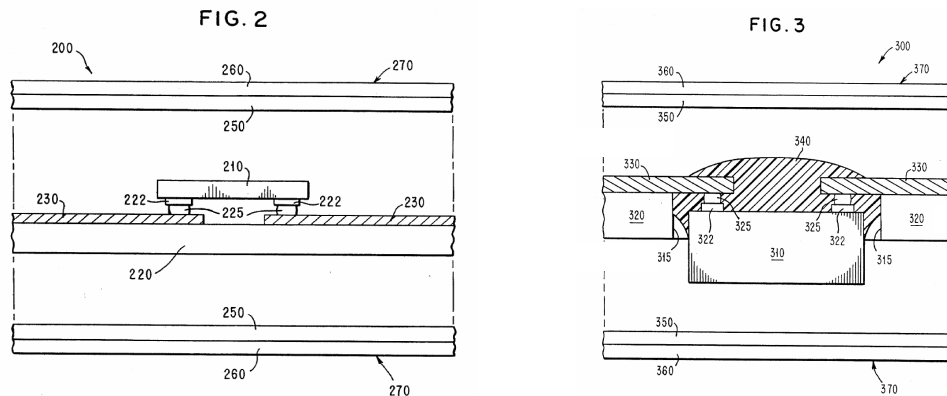
I. THE '222 PATENT

A. Introduction

As discussed in Intermec's opening brief (D.I. 71), the '222 patent is directed to a thin flexible RFID tag. In addition to constructing the tag on a flexible substrate, of which the antenna is an integral part, the '222 patent discloses and claims making the tag as thin as possible by placing the circuit chip in "adjacent proximity" to the antenna and making the "connecting lines" "coplanar" with the antenna and antenna terminals. These terms are used in the only independent claim of the '222 patent, claim 1 (disputed terms underlined):

1. A thin flexible electronic radio frequency tag circuit comprising;
 - a. an insulating, flexible substrate;
 - b. an antenna that is an integral part of the substrate and that has terminals;
 - c. a circuit chip having a modulator circuit, a logic circuit, a memory circuit, and chip connectors and being on the substrate in adjacent proximity to the antenna;
 - d. one or more connecting lines between the antenna terminals and the chip connectors, the connecting lines being coplanar with the antenna and antenna terminals.

The patent discloses several embodiments of the disclosed invention, including those depicted in Figures 2 and 3, reproduced below with labels added for clarity:



The parties appear to agree that the applicants defined the terms "adjacent proximity" and "coplanar" in the specification and prosecution history. The parties, however, disagree, as to what these definitions mean. The parties also disagree as to the meaning of the term "connecting lines."

B. The Proper Construction Of "Adjacent Proximity" Cannot Exclude The Preferred Embodiment

Under Symbol's proposed construction of the term "adjacent proximity," the claims would exclude the embodiments disclosed in the patent. "Such an interpretation is rarely, if ever, correct and would require highly persuasive evidentiary support, which is wholly absent in this case." *Vitronics*, 90 F.3d at 1583; *see also PHT Corp. v. Invivodata*, 2005 U.S. Dist. Lexis 9577, at *13 (D. Del. May 19, 2005) ("interpretation that excludes the preferred embodiment 'requires highly persuasive evidentiary support.'").

Symbol says that "adjacent proximity" should be construed to mean "close with no stacking," where "this means that the elements or components, including the

antenna and the circuit chip, are on the substrate close to each other but not physically on top of one another" (D.I. 69 at 14-15). If this definition were correct, the preferred embodiments disclosed in the figures, especially Figure 2 -- which is the focus of the patent's discussion of "adjacent proximity" -- would be "stacked."

The patent refers expressly to Figure 2 when it states that "[f]urther novelty of the invention includes arranging the components (chip and antenna and possibly a battery) in adjacent proximity to one another. This means that the components are close (i.e., not stacked)." ('222 patent, Col. 4, Ins. 23-26). It is clear, therefore, that Figure 2 is an example of a tag where the components are "not stacked."

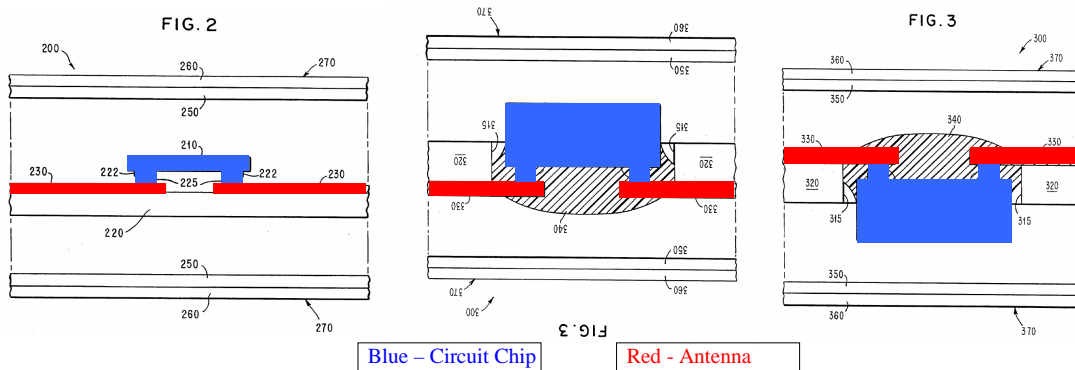
Under Symbol's proposed construction, none of the preferred embodiments of Figures 2, 3, 4, 5 and 6 would be covered by the '222 patent (D.I. 69 at 15-16). Symbol acknowledges, however, that Figure 3 is "not stacked" (D.I. 69 at 15). Contrary to Symbol's argument, Figure 3 is no different from Figure 2 with regard to stacking. Figure 3 merely adds an additional innovation:

In order to further reduce the thickness of the package, the substrate is manufactured with a window allowing the insertion of the chip into the window. Thus, the thickness of the substrate is not added to the thickness of the chip.

('222 patent, Col. 5, Ins. 8-11). Nothing in the description of Figure 3 differentiates it from the embodiment of Figure 2 on the basis that one shows the components in "adjacent proximity" while the other does not. This is because there is no such difference.

Under Symbol's proposed construction, both the Figure 2 and Figure 3 embodiments are the same in terms of "stacking." In both of the embodiments, the chip and the antenna sit on top of one another. Symbol says that the Figure 3 embodiment is

"not stacked" because the circuit chip is not "on top of the antenna." (D.I. 69 at 15). It makes no difference that in Figure 2 the chip is on top of the antenna while in Figure 3 the antenna is on top of the chip. Symbol has not defined "stacked" to include such a distinction and such a distinction would be nonsensical. This is demonstrated by the collection of figures below, showing Figure 2 next to an inverted Figure 3, and Figure 3 as it appears in the '222 patent. In each figure, the circuit chip has been colored blue and the antenna has been colored red for illustration purposes. Nothing in the claims or the specification imparts any importance to the relative orientation of the tag,² and the configuration of Figure 3 is identical to Figure 2 with respect to the relative positions of the antenna and the circuit chip. In other words, if Figure 3 is "not stacked," then neither is Figure 2.



By focusing on the physical "stacking" of the circuit chip on the antenna, instead of the stacking of electrical planes, Symbol ignores the basic teaching of the '222

² In Figures 2 and 3, both sides of the package are lined in the same way ('222 patent, Col. 4, lns. 49-60.) *See also*, discussion of Figure 8 at Col. 6, lns. 39-57, making no distinction between the top and bottom of the tag package.

patent -- which is to keep all the components on the same electrical plane or metal layer and thus avoid the thickness that results when "elements are stacked and layers are added . . ." '222 patent, Col. 2, lns. 51-52.³ In each of the preferred embodiments disclosed in the '222 patent, including those of Figures 2 and 3, there is a single metal layer, the antenna, on a single substrate and thus only one electrical plane. The circuit chip is connected directly to the antenna and thus is part of the same electrical plane. There is no "stacking" of elements, as set forth in the claims.

The term "adjacent proximity," therefore, should be construed to mean "close (i.e., not stacked)," as stated in the specification, where "stacked" refers to the stacking of electrical planes (or metal layers), not the physical stacking of the individual components present in the preferred embodiments. To hold otherwise would exclude the preferred embodiments from the claims.

C. Symbol's Proposed Construction Of "Coplanar" Ignores The Patentee's Definition: "No Vias, Crossovers, Etc., A Single Plane Of Wiring,"

The parties also appear to agree that the term "coplanar" is defined by the specification. Symbol, however, abbreviates the definition provided in the prosecution history in a misleading way to try to alter its meaning. As Symbol notes, as originally filed, claim 1 included the parenthetical "(coplanar means no vias, crossovers, etc. single plane of wiring. . . .)" (D.I. 69 at 16). Symbol argues that "coplanar" means "single plane of wiring," omitting the reference to "no vias, crossovers, etc.," seeking thereby to alter the intended meaning of the term.

³ A brief discussion explaining the technical context in which the terms "metal layer" and "plane" are used is included, *infra*, at Section I.E.

Consistent with the way one of ordinary skill in the art would understand the use of this language,⁴ the '222 specification explains that "vias" and "crossovers" are necessary when a connection is required between two metal layers separated by a dielectric layer or substrate:

The novel design has a single metal layer with **no vias (between-plane connectors through a dielectric layer)** in the flexible continuous film.

('222 patent, Col. 4, lns. 19-21) (emphasis added). *See also* D.I. 69 at 12 (providing a consistent explanation of vias and crossovers.) If "coplanar" means "no vias," it therefore means no "between-plane connectors through a dielectric layer." Thus, the "single plane of wiring" refers to a metal layer or electrical plane and not, as Symbol contends, to a physical plane. Only if there were multiple planes of wiring, i.e., multiple metal layers or multiple electrical planes, would "vias, crossovers, etc." be required.

Symbol's attempt to construe the term "coplanar" narrowly to require that the coplanar components be in (or share) a common physical plane, rather than an electrical plane, ignores the very language the inventors used to define "coplanar." To be consistent with their language, "coplanar" should be construed to refer to components being in the same plane of wiring, i.e., on the same metal layer or in the same electrical plane, although not necessarily in the same physical or geometric plane.

⁴ See discussion, *infra*, at Section I.E.

**D. "Connecting Lines" At The Very Least Includes
The Bonding Types Identified In The
Specification**

**1. The Specification Only Supports
Connecting Lines That Include The
Bonding Types**

Symbol's construction of "connecting lines" as excluding the bonding types identified in the specification ignores the teachings of the specification as well as the language of other claims of the patent.

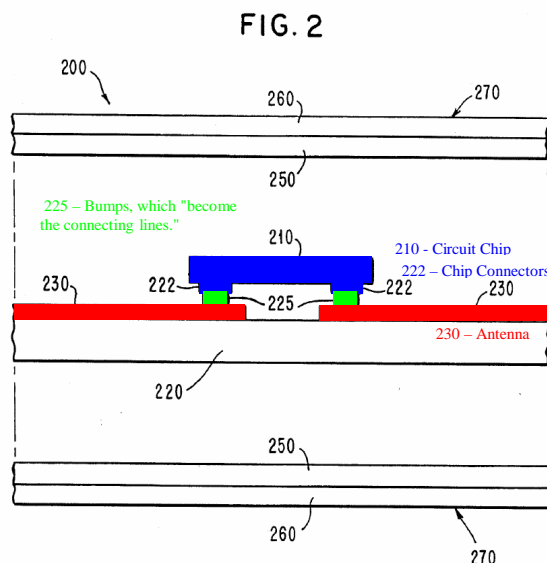
Throughout the specification and the claims, the inventors expressed their intent that the "connecting lines" and the bonding types could be -- and preferably would be -- one and the same. With respect to Figure 2, for example, where "bumps" are used to bond the chip connectors to the antenna, the specification states expressly:

The chip is connected to the antenna lines by means of bumps on the chip, either plated gold bumps for thermocompression bonding or C4 solder bumps for solder bonding are preferred. **The bumps 225 then become the connecting lines.**

('222 patent, Col. 4, lns. 13-17) (emphasis added). These "bumps," which "become the connecting lines," can therefore be thermocompression bonding and C4 bonding (*id.*). Nevertheless, Symbol seeks to exclude those types of bonding from the definition of "connecting lines."

Under Symbol's proposed claim construction, the bumps disclosed in the specification -- which expressly "become the connecting lines" -- cannot "become the connecting lines." According to Symbol, to meet the "connecting lines" limitation of the only independent claim, the preferred embodiments need an additional element, a separate electrical conductor inserted somewhere between each of the chip connectors, the bumps and the antenna. No such element is present in Figure 2, reproduced below

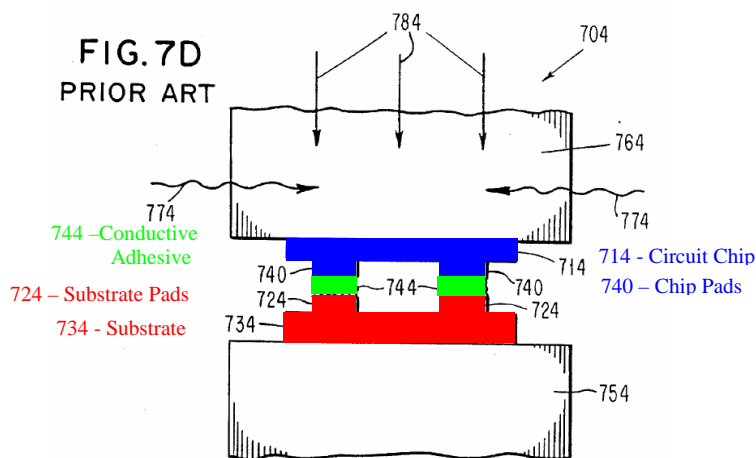
with colors and labels added for clarity. Nor is any such element found in the embodiment of Figure 3 (reproduced above), which shows the same bumps shown in Figure 2. Similarly, Figures 4, 5 and 6, showing top views of the preferred embodiments show the chip connectors bonded directly to the antenna.⁵ As noted above, a claim interpretation that excludes the preferred embodiment "is rarely, if ever, correct and would require highly persuasive evidentiary support, which is wholly absent in this case." *Vitronics*, 90 F.3d at 1583.



The discussion in the specification is similar with respect to other bonding types. As discussed in Intermec's opening brief, the patent describes several bonding

⁵ The insertion of an additional element to the embodiment of Figure 2 would have two undesired effects. First, it would add thickness to the tag package, contrary to the stated goal of making the tag thin. Secondly, any additional length of conducting material would add unwanted inductance into the circuit. The specification recognizes the benefits of having the bumps become the connecting lines "[s]ince they are only on the order of 25 microns or so they will not degrade electrical performance by introducing unwanted inductance into the circuit." '222 patent, Col. 4, Ins. 17-19.

types, not for bonding a circuit to some separate connecting element, but "to attach chips to circuitry that are on the substrate." ('222 patent, Col. 6, lns. 1-3). For example, Figure 7D is described as showing the use of a conductive adhesive as the "connecting medium" between the chip and the substrate. (*Id.*, Col. 6, lns. 28-31). As illustrated below, Figure 7D⁶ does not disclose using the conductive adhesive to connect the chip to some separate connecting line. Rather, the conductive adhesive is the medium by which the chip is connected to the substrate in much the same way as the bumps are used to connect the chip to the antenna in Figure 2. The conductive adhesive, therefore, serves the function of the "connecting lines" called for in claim 1.⁷



⁶ Colors and labels added for clarity.

⁷ The pads on both the chip and the substrate in Figure 7D are not separate connecting lines but rather raised portions of the chip and substrate respectively to provide a location for the connection.

**2. Claim Differentiation Cannot Require A
Claim Construction Not Supported By
The Specification**

Symbol argues that dependent claim 5, by purporting to distinguish between the "connecting lines" and the "bonding types" compels a construction of "connecting lines" in claim 1 that excludes the bonding types identified in the specification. This use of claim 5 would result in claim 1 describing a device not disclosed or suggested by the specification -- a device having a connecting element separate and apart from the bonding material. As discussed above, the specification specifically and exclusively discloses a tag construction where the bonding types, i.e., the bumps, "become the connecting lines," and therefore are not separate from the connecting lines.

[C]onstruction of claims is not based solely upon the language of other claims; the doctrine [of claim differentiation] cannot alter a definition that is otherwise clear from the claim language, description, and prosecution history. *See Hormone Research Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1567 n. 15, 15 USPQ2d 1039, 1047 n. 15 (Fed. Cir. 1990) (stating that the doctrine of claim differentiation "cannot overshadow the express and contrary intentions of the patent draftsman")

O.I. Corp. v. Tekmar Co., Inc., 115 F.3d 1576, 1582 (Fed. Cir. 1997).

Moreover., claim 21 of the '222 patent (which depends from claim 1, through claim 19) expressly requires that thermocompression bonding be used to connect the chip contacts to the antenna:

21. A circuit, as in claim 19, wherein the battery contacts are connected by spot welding and **the chip contacts are connected to the antenna by thermocompression bonding.**

('222 patent, claim 21) (emphasis added). The unambiguous language of claim 21 demonstrates that Symbol's proposed construction of "connecting lines" in claim 1 is wrong. In other words, if Symbol were correct and "connecting lines" could not be one of the bonding types, then claim 21 -- which expressly states that the connecting lines *are* one of the bonding types -- would make no sense.⁸

Symbol's reliance on the doctrine of claim differentiation is misplaced. The possibility that Intermec's claim construction may make dependent claim 5 redundant (D.I. 69 at 20) is not a basis to interpret claim 1 so as to contradict the specification and render other claims in the patent meaningless:

"[T]he concept of claim differentiation ... states that claims should be *presumed* to cover different inventions. This means that an interpretation of a claim should be avoided if it would make the claim read like another one. **Claim differentiation is a guide, not a rigid rule. If a claim will bear only one interpretation, similarity will have to be tolerated.**" [Emphasis added and footnotes omitted.]

Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1538 (Fed. Cir. 1991) (*quoting Autogiro Co. of America v. United States*, 384 F.2d 391, 404 (Ct. Cl. 1967) (bold emphasis added)). The proper construction of "connecting lines" in claim 1, when read in light of the specification as required by *Phillips*, 2005 WL 1620331 *11, can bear only one

⁸ As originally filed, claim 5 was consistent with claim 21:

5. A circuit, as in claim 1, **where the connecting lines are any of the bonding types** including thermal compression, single point bonding, C4 bonding, and conductive adhesive.

(Original Application, p. 10 (D.I. 70, Ex. 4, Tab 1)) (emphasis added). This claim, however, was amended after the examiner stated that "Claim 5 is indefinite [under 35 U.S.C. §112, ¶ 2] since it is clear that the lines are not bonding types as recited." (D.I. 70, '222 FH, 4/13/95 Office Action, p. 2 (D.I. 70, Ex. 4, Tab 3)). The examiner did not, however, reject claim 21.

interpretation: the connecting lines can be, and in the preferred embodiments are, the bonding types. Any other construction is unsupported by the specification or the other claims in the patent.

**3. The Specification And The Claims
Distinguish The Battery Connecting Lines
From The Antenna/Chip Connecting
Lines**

Symbol's attempt to use language associated with the battery connecting lines to support its construction of the antenna/chip "connecting lines" language of claim 1 (D.I. 69 at 20) is also unsupported by the specification or the claims. Unlike the antenna/chip "connecting lines," which connect the chip connectors and the antenna, the leads connecting the battery to the chip are specifically identified in both the specification and the figures as separate elements bonded to the chip contacts. *See*, '222 patent, Figure 6 (661 and 662) and Col. 5, lns. 33-35 ("A thin battery 660 is connected to the chip 610 **by leads 661 and 662 bonded at contacts 625**" (emphasis added)).

This characteristic of the battery connecting lines is also captured in claim 20, which as issued *and* as originally filed, required that:

the battery contacts are connected to the battery connecting lines by any of the bonding types including spot welding, soldering, thermocompression bonding, and conducting adhesive.

('222 patent, claim 20, D.I. 70, '222 FH, Original Application at 11 (filed as Claim 18) (D.I. 70, Ex. 4, Tab 1)). Thus, the "connecting lines" language of claim 1 is separate and distinct from the "battery connecting lines" language of claims 19 and 20, and Symbol's attempt to equate one with the other is inappropriate.

Symbol's attempt to narrow the term "connecting lines" is incorrect. The term should be given its ordinary meaning: "any substance that connects two or more electrical components."

E. Technical Context For Claim Construction Issues

The specification and prosecution history of the '222 patent provide the inventors' definition of the terms "adjacent proximity" and "coplanar." That language, however, should also be placed in the proper context. For example, the specification states that "[t]he tag has the antenna and all interconnections placed on a single plane of wiring without crossovers" ('222 patent, Col. 3, lns. 16-18), but does not expressly explain what is meant by the phrase "single plane of wiring." The specification also explains that:

The novel design has a single metal layer with no vias (between-plane connectors through a dielectric layer) in the flexible continuous film. By using only one level of metal to produce the antenna and interconnections, the package is kept thin.

('222 patent, Col. 4, lns. 18-22), but does not provide the context for understanding the significance of its use of the phrase "single metal layer."

As the Federal Circuit stated in *Phillips*:

because extrinsic evidence can help educate the court regarding the field of the invention and can help the court determine what a person of ordinary skill in the art would understand claim terms to mean, it is permissible for the district court in its sound discretion to admit and use such evidence.

Phillips, 2005 WL 1620331 *11.

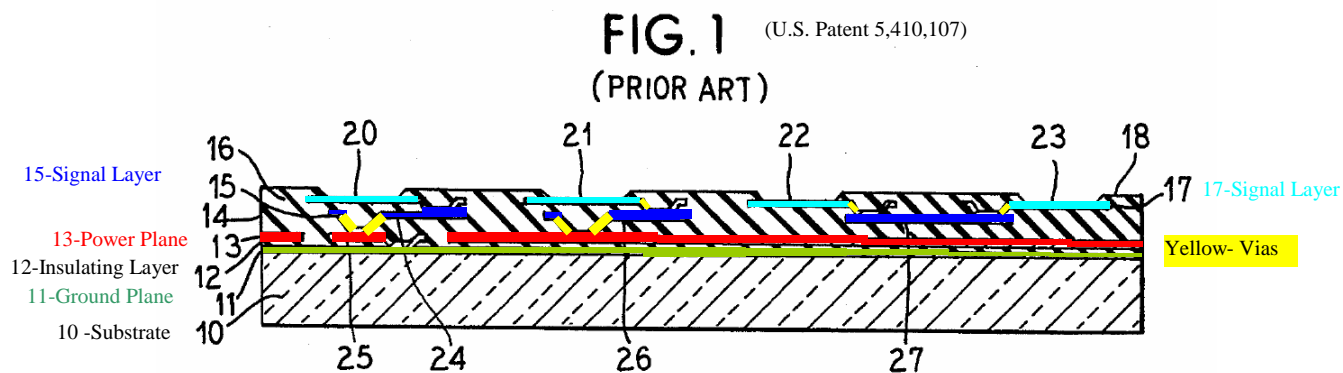
Here, it may be instructive to look outside the '222 patent to gain an understanding of how one of ordinary skill in the art would understand the language used by the inventors. In this instance, therefore, it may be desirable to look at the context in which the inventors used phrases such as "single plane of wiring" and "single metal layer," since these are phrases used to define the claim language "coplanar" and "adjacent proximity."

One source of extrinsic evidence is contemporaneous patents filed by others in a related field. For example, U.S. Patent 5,410,107 to Schaper, entitled, "Multichip Module" ("Schaper") (Ex. A), which was filed eighteen months before the '222 patent, in its background discussion, discusses the manufacture of circuits and the use of phrases like "metal layer," "vias," and electrical planes.

Just as the '222 patent is concerned with the interconnections made between a circuit chip and an antenna, Schaper "relates to integrated circuit chips and media for interconnecting same." Ex. A, Col. 1, lns. 5-6. More specifically, Schaper relates to "assemblies known as multichip modules (MCM) wherein unpackaged integrated circuit chips [like the circuit chip of the '222 patent] can be mounted on and wired to a substrate containing multiple patterned metal levels for power distribution and signal interconnection." *Id.* at Col. 1, lns. 6-11.

Schaper explains that in the prior art such substrates were formed when dielectric or insulating layers were interposed between metal or conducting layers. "Holes (vias) patterned in these insulating layers . . . allow interconnection from one level of metal to another." *Id.* at Col. 1, lns. 35-38. "Typically, there is one level each for a power plane, a ground plane, signals in the X direction, and signals in the Y direction,"

each of these representing a different electrical plane. *Id.* at Col. 2, Ins. 1-3. Schaper illustrates this prior art configuration in Figure 1 (labels and color added for clarity):



This configuration, with multiple metal layers and multiple planes of wiring, where vias are necessary to connect one metal layer to another through an insulating layer, is an example of the type of configuration the '222 patent was trying to avoid. Such a configuration, with electrical planes stacked one on top of the other would make the tag undesirably thick, in direct contrast to the '222 patent's stated goal of providing a "thin flexible" tag.

Thus, the '222 patent's reference to the prior art where "the antenna and connecting conductors require more than one plane of electrical wiring . . . [and] elements are stacked and layers are added [such that] the package grows thicker and flexibility is lost," refers to the kinds of circuit interconnections disclosed as prior art in Schaper. '222 patent, Col. 2, Ins. 48-52. The '222 patent seeks to improve on tags using such prior art techniques by having "a single metal layer with no vias (between-plane connectors through a dielectric layer)" and where the components are "not stacked." *Id.* at Col. 4, Ins. 19-27.

II. THE '019 PATENT

A. Introduction

As discussed in Intermecc's opening brief, the '019 patent is directed to a system and method for more efficiently reading multiple tags. More specifically, the patent discloses and claims grouping tags based on the "wave characteristics of the of the electromagnetic wave energy received from the RF tags." By grouping the tags, the base station can more quickly read the tags, which can only be read one at a time.

Each of the three independent claims of the '019 patent contains terms that are in dispute. Claim 1, for example, reads as follows, with disputed terms underlined:

1. A method for communicating between a base station and a set of radio frequency RF transponders (Tags) comprising:

defining a plurality of RF tags into different groups according to a physical wave characteristic of the electromagnetic wave energy received from the RF tags, and

communicating with the tags in each defined group.

Symbol contends that the step of "defining a plurality of RF tags into different groups" and the similar limitations in the other claims is limited by the prosecution history. As explained below, it is not. Symbol also contends that the step of "communicating with the tags in each defined group" means the same thing as "reading the RF tags in each group" used in the other claims and that each of these limitations is limited to the embodiments disclosed in the specification. There is no basis for Symbol's attempts to narrow the claims in these ways.

B. The Inventors Did Not Limit The "Grouping" Step During The Prosecution History.

Each of the three independent claims of the '019 patent includes a similar limitation:

Claim 1 "defining a plurality of RF tags into different groups according to a physical wave characteristic of the electromagnetic wave energy received from the RF tags"

Claim 9: "grouping the RF tags according to a physical characteristic of their responsive electromagnetic signals"

Claim 18: "grouping the RF tags according to a physical characteristic of their responsive electromagnetic signals"

Intermec and Symbol appear to agree that each of these limitations should generally be construed to have the same meaning. (D.I. 71 at 25; D.I. 69 at 30). Both parties also appear to agree that, with Symbol's one exception, these phrases should be given their ordinary meaning. (D.I. 71 at 25; D.I. 69 at 24). Intermec disagrees, however, with Symbol's unsupported contention that the ordinary meaning should be limited so as to exclude "grouping where the tags select themselves according to a signal from the base station." (D.I. 69 at 24).

Symbol relies on a single sentence from the prosecution history as its only support for the contention that the otherwise unambiguous language of the claims should not control. The prosecution history, however, does not express an unequivocal disavowal of claim scope. *Innova*, 381 F.3d at 1123, citing *Omega Engineering, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323-24 (Fed. Cir. 2003). Rather, when all of the inventors' comments are considered in light of the prior art over which they were distinguishing their claims, it is clear that the inventors were not limiting the scope of their claims, as Symbol argues.

In *Phillips*, the Federal Circuit confirmed that the prosecution history should be considered during claim construction, but cautioned that reliance on the prosecution history has its limitations:

... because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes. See *Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1380-82 (Fed. Cir. 2002) (the ambiguity of the prosecution history made it less relevant to claim construction); *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (the ambiguity of the prosecution history made it "unhelpful as an interpretive resource" for claim construction).

Phillips, 2005 WL 1620331 *9. Thus, the Federal Circuit reaffirmed its earlier holdings that the doctrine of prosecution disclaimer, i.e., where the prosecution history is used to narrow the ordinary meaning of a claim, only applies "where the patentee has unequivocally disavowed a certain meaning to obtain his patent." *Innova*, 381 F.3d at 1123; *Omega Engineering*, 334 F.3d at 1324. Where, however, "the alleged disavowal of claim scope is ambiguous," that doctrine does not apply:

We have, however, declined to apply the doctrine of prosecution disclaimer where the alleged disavowal of claim scope is ambiguous. For instance, in *Northern Telecom Ltd. v. Samsung Electronics Company*, 215 F.3d 1281, 1293-95, 55 USPQ2d 1065, 1074-75 (Fed. Cir. 2000), the accused infringer relied on remarks made by the inventors to overcome a rejection as the basis for narrowing the broad language of the claims. Having independently considered the prosecution history, we viewed the inventors' statements as amenable to multiple reasonable interpretations and deemed the remarks so ambiguous that, "[l]ike the district court, we simply cannot tell." *Id.* at 1294, 215 F.3d 1281, 55 USPQ2d at 1075. Since the prosecution statements were "far too slender a reed to support the judicial narrowing of a clear claim term," we declined to apply the doctrine of prosecution disclaimer under those circumstances. *Id.*

Id. See also *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1347 (Fed. Cir. 2001) (refusing to limit the ordinary meaning of the claim because the alleged disclaimer in the file wrapper was at best "inconclusive"); *Pall Corp. v. PTI Techs. Inc.*, 259 F.3d 1383, 1393-94 (Fed. Cir. 2001) (finding that the scope of disclaimer over the prior art reference was ambiguous and thus remanding for clarification), *vacated on other grounds*, 535 U.S. 1109 (2002); *PHT*, *supra*, at *15-16 (disclaimer of scope coverage requires "words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope").

Here, the statement made by the inventors was at best ambiguous, especially when considered in light of the prior art over which they were seeking to distinguish the claims. *Vitronics*, 90 F.3d at 1583 ("Included within an analysis of the file history may be an examination of the prior art cited therein."); *Atlantic Thermoplastics Co., Inc. v. Faytex Corp.*, 970 F.2d 834, 846 (Fed. Cir. 1992) ("the courts must consult the specification, prosecution history, prior art, and other claims to determine the proper construction of the claim language."); See also, *LaBounty Mfg., Inc. v. U.S. Intern. Trade Com'n*, 867 F.2d 1572, 1576 (Fed. Cir. 1989) (close examination of prior art necessary when evaluating prosecution history estoppel).

During the prosecution of the application that resulted in the '019 patent, the claims that issued as claims 1 and 9 were "rejected under 35 U.S.C. § 103(a) as being unpatentable over Cesar (5673037) in view of either Brophy (4071908) or Cotie

(4667193)."⁹ ('019 FH, 1/12/99 Office Action, p. 3 (D.I. 70, Ex. 6, Tab 6)). The examiner explained that, in his view:

Brophy and Cotie both show the claimed polling schemes, however they do not expressly show such schemes in a RF tag system. . . . Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the polling scheme of either Brophy or Cotie in the RF tag system of Cesar to improve communication efficiency.

Id. The inventors responded to this rejection by amending their claims to emphasize the "physical" properties of the wave characteristics and by arguing that:

Neither Brophy et al, Cotie et al., nor Cesar et al. mention or suggest grouping the tags in accordance with "a physical wave characteristic of the electromagnetic wave energy received from the RF tags."

('019 FH, 3/16/99 Amendment, pp. 2 and 5 (D.I. 70, Ex. 6, Tab 8)). This was the applicants' direct response to the examiner's rejection, clearly and unequivocally distinguishing the cited references from the claimed invention based on specific language in the claims. This is all that was needed because, as the patentees stated, none of the three cited references disclosed or suggested a system where tags, or any other remote items, were grouped based on the "physical wave characteristic of the electromagnetic wave energy received from the RF tags."¹⁰

⁹ Cesar, Brophy and Cotie are attached hereto as Exs. B, C and D.

¹⁰ Brophy and Cotie disclose a polling scheme where a polling station can address individual remote stations or groups of stations. Cesar discloses an RFID system where the base station can select individual tags or groups of tags based on specific criteria set by the base station. None of these references disclose or suggest grouping the tags based on the "physical wave characteristic of the electromagnetic wave energy received from the RF tags."

By amending their claims to recite "physical" wave characteristics and by distinguishing the prior art on this basis, applicants confirmed their intent to limit the claims in this way. They did not amend the claims, however, to distinguish them based on the manner in which the tags were selected and their comments in this regard were unnecessary because it is unclear how the "tags" in the cited references "select themselves."¹¹ There was, therefore, no unequivocal disavowal of claim scope, such as would be required for the prosecution to impose a limitation on otherwise clear and unambiguous claim language. *Innova* 381 F.3d at 1123; *Omega Engineering*, 334 F.3d at 1324. Furthermore, nothing in the prosecution history or the specification restricts the claim from covering a system where the tags are grouped based on information contained in the tag, when that information is conveyed to the base station as a "physical wave characteristic" of the signal received from the tag.

The claim language of claims 1, 9 and 18 should, therefore, be given its ordinary meaning, with no exceptions.

**C. Symbol Fails To Recognize The Distinction
Between The Claim Limitations Calling For
"Communicating With" And "Reading" The
Tags**

Each of the three independent claims of the '019 patent contains a similar limitation:

Claim 1: "communicating with the tags in each defined group."

¹¹ In each of the three cited references, the tags or remote stations are selected by the base station or polling station. In Brophy and Cotie, the unique address of the remote station issued by the polling station was used to make the selection. In Cesar, the state of the tag, i.e., selected or unselected was "determined by criteria sent out by the base station." (Ex. B, Col. 3, lns. 49-51).

Claim 9: "reading the RF tags in each group."

Claim 18: "reading the RF tags in each group."

Symbol treats each of these limitations as identical, even though they are not. Although claims 9 and 18 require the "reading" of the RF tags, claim 1 requires "communicating" with the tags. Further, claim 1 specifies the step of communicating with the tags in "each defined group," while claims 9 and 18 require only that the RF tags "in each group" be read. These differences are important. *Phillips*, 2005 WL 1620331 *7 ("Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.").

In addition to construing these terms incorrectly, as if they were all the same, Symbol also seeks to construe them in a manner that impermissibly reads limitations from the preferred embodiments into the claims. *Phillips*, 2005 WL 1620331 *15 ("we have repeatedly warned against confining the claims to those [specific] embodiments [disclosed in the specification]."); *Innova*, 381 F.3d at 1117 ("accordingly, particular embodiments appearing in the written description will not be used to limit claim language that has broader effect."); *Collegenet, Inc. v. Applyyourself, Inc.*, ___ F.3d ___, 2005 WL 1803665 (Fed. Cir. Aug. 2, 2005) ("In examining the specification for proper context, however, this court will not at any time import limitations from the specification into the claims.").

Symbol seeks to construe each of the identified claim limitations to mean communicating or reading "all of the tags in each group as grouped" (D.I. 69 at 27), arguing that this is the only embodiment disclosed in the specification. *Id.* at 28. Putting aside the difference between "communicating" and "reading," discussed at length in

Intermec's opening brief (D.I. 71 at 27-28), the claim limitations have another significant difference related directly to the restriction Symbol wants to impose.

As noted above, claim 1 requires "communicating with the tags in each defined group," which is quite different from claims 9 and 18, which each require "reading the RF tags in each group." By using the phrase "each defined group" in claim 1, but using only "each group" in claims 9 and 18, the inventors expressed a distinction consistent with the use of "communicating" in claim 1 and "reading" in claims 9 and 18. *Innova*, 381 F.3d at 1119 ("all claim terms are presumed to have meaning in a claim . . . when an applicant uses different terms in a claim it is permissible to infer that he intended his choice of different terms to reflect a differentiation in the meaning of those terms.").

By using the phrase "each defined group" in claim 1, the inventors expressed that the base station would communicate with each of the tags in the "defined group" as grouped where, as discussed in Intermec's opening brief, "communicating" means any transmission of information between the base station and the tag. (D.I. 71 at 28). Thus, except for the distinction between "reading" and "communicating" not addressed by Symbol, Symbol's proposed construction of this limitation, as it appears in claim 1, is correct.

With respect to claims 9 and 18, however, by eliminating the word "defined," the inventors chose to express a different limitation. Rather than reading each tag in "each group" as grouped, as Symbol proposes, the claim requires only that the tags in each group, i.e., all the tags, be read. This claim construction is supported by the specification, which says that the objective of the disclosed system is to read all the tags within the field of the base station. ('019 patent, Col. 11, Ins. 21-23). Contrary to

Symbol's argument, this construction of the claims does not render the invention "unnecessary." (D.I. 69 at 28). In fact, the specification discloses an embodiment where the tags are grouped based on the "physical wave properties" of the signal received from the tag and then those groups are further subdivided based the "physical wave properties" of the tag signal:

Additional embodiments of the invention include further subdividing the groups selected by the above [signal amplitude] method on the basis of the phase and/or polarization of the signals returned to the base station, as well as other physical or software group selection criteria.

('019 patent, Col. 8, Ins. 15-19). Symbol's proposed construction would exclude such an embodiment because, by requiring the tags to be read "as grouped," the tags would have to be read after the initial grouping, not allowing for the "further subdividing" of the groups, as disclosed in the patent. Symbol's contention that its construction must be correct because "every one of the embodiments described in the patent" supports it (D.I. 69 at 28, (emphasis in original)), is incorrect. In *Innova*, the Federal Circuit held that even though "all examples" provided in the specification supported the defendant's proposed claim construction, that construction was overly narrow because "the specification as a whole reflect[ed] the patentee's efforts to describe and claim" broader concepts. *Innova*, 381 F.3d at 1122.

III. THE '632 PATENT

A. Introduction

The '632 patent is directed to an RFID tag where the oscillation frequency is determined by the RF signal sent from the base station, eliminating the need to have an expensive fixed oscillator on the tag itself. The parties initially identified two disputed

issues of claim construction as reflected, for example, in claim 1, where the disputed terms are underlined:

1. A passive radio frequency (RF) transponder (tag) for receiving an RF signal from a base station, comprising;

a tag antenna for receiving the RF signal from *[sic]* the base station the RF signal having a carrier frequency;

a tag rectification power supply connected to the tag antenna;

a tag logic section and a tag memory section the tag logic section and the tag memory section receiving power only from the tag antenna through the tag rectification power supply;

a receiver section connected to the tag antenna; and

a tag oscillator connected to the receiver section, the tag oscillator having a plurality of possible discrete frequencies of oscillation, the tag oscillator having a tag oscillation frequency much less than the carrier frequency, the tag oscillator frequency used to determine a tag modulation frequency of an RF signal backscattered from the tag antenna, the tag oscillation frequency determined by the RF signal sent from the base station.

As discussed below, Intermec is now willing to accept Symbol's contention with respect to the second term, though there remains a certain level of disagreement with respect to the first term, "backscattered."

B. Symbol's Construction Of "Backscattered" Is Overly Restrictive

Symbol's proposed construction of the term "backscattered," fails to adapt the general definition provided in the "Background of the Invention" section of the '632 patent specification to the specifics of the invention claimed in the '632 patent.

For instance, as discussed in Intermec's opening brief, the notion that a passive RFID tag "rebroadcasts" the incoming RF signal is not completely accurate. The

"Background of the Invention" section of the specification discusses RFID tags, in general, including both active and passive tags. Although an active tag may "rebroadcast" the incoming RF energy, a passive RFID tag can only "reflect" that energy.

Further, Symbol's proposed use of the general definition of "backscattered" to require that the reflected signal be "at the carrier frequency" is also inappropriately narrow. As discussed in Intermec's opening brief, the asserted claims of the '632 patent require that the "backscattered" signal have a modulation frequency. (D.I. 71 at 21). As is well understood by those skilled in the art, when a carrier signal is modulated, i.e., by amplitude modulation (AM) or frequency modulation (FM), the resulting signal is distributed about the carrier frequency. The term "backscattered," therefore, must be construed to allow for the effects of such modulation. To the extent the phrase "at the carrier frequency" is understood to include signals distributed about the carrier frequency, Intermec can accept that construction.

**C. Intermec Accepts Symbol's Construction Of
"The Tag Oscillation Frequency Determined By
The RF Signal Sent From The Base Station" To
The Extent The Dependent Claims Cover The
Preferred Embodiment**

Symbol and Intermec appear to agree that this limitation, as expressed in claims 1, 13, 22 and 28, should be construed the same way.

Intermec has considered Symbol's arguments with respect to the proper construction of the terms "RF signal sent from the base station" and has concluded they may have merit. Therefore, to the extent Symbol has admitted that dependent claims 2, 14 and 23 add the precise limitation Intermec sought for independent claims 1, 13, and 22, respectively, by, for example, requiring that the "tag oscillator frequency be

determined by" the modulation frequency as in claim 2, Intermec withdraws its objection to Symbol's proposed claim construction with respect to this claim limitation.¹²

CONCLUSION

For the reasons stated, the disputed terms of the patents-in-suit should be construed as Intermec has proposed.

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¹² Intermec has informed Symbol that it is asserting claims 2, 14 and 23, as well as claims 3, 15 and 24, because claims 2, 14, and 23, as discussed in Symbol's opening brief, contain the precise limitation Intermec sought. Because Symbol and Intermec appear to agree on the proper construction of these claims, Symbol will not be prejudiced by Intermec adding them at this time. There are no additional terms in those claims that require construction. In any event, Intermec should not be precluded from asserting additional claims when Symbol is still in the process of producing hundreds of thousands of pages of additional documents, when it still has not produced the accused products that Intermec requested in January of this year, and when it still has not provided its invalidity contentions, despite repeated requests.

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August 15, 2005

CERTIFICATE OF SERVICE

I, Jack B. Blumenfeld, hereby certify that on August 15, 2005 I electronically filed **Plaintiff's Answering Claim Construction Brief** with the Clerk of the Court using CM/ECF, which will send notification of such filing to the following:

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